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The Ohio State University

ELECTRICALLY SMALL ANTENNAS

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Department of the Army
U.S. Army Research Office
Research Triangle Park, North Carolina 27709

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This summary describes the work on ARO Grant Number DAAG29-79-C-0082 from 1 July to 31 December 1981. The purpose of this grant is to develop theory and techniques for small antennas mounted on structures, for printed-circuit antennas, and for k-pulse applications.

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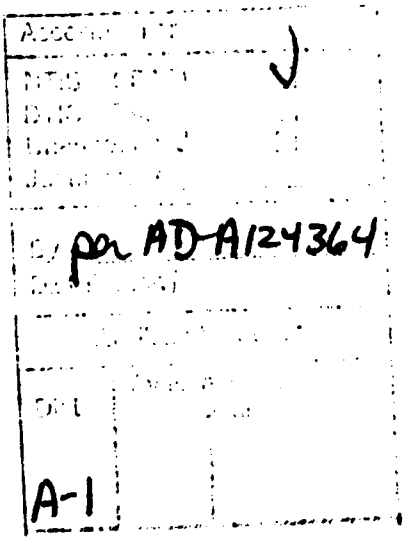
J.H. Richmond
C.H. Walter

No degrees awarded during this period.



BRIEF OUTLINE OF RESEARCH FINDINGS

This summary describes the work ~~on ARO Grant Number DAAG29-79-C-0082 from 1 July to 31 December 1981.~~ described on The purpose of this grant is ~~to~~ developing theory and techniques for small antennas mounted on structures, for printed-circuit antennas, and for k-pulse applications.

For the mutual impedance between coplanar microstrip antennas, it was found that the numerical integration technique required some refinement. After the singularity is removed, a significant contribution still comes from the very small region around the singularity. Therefore, careful integration is required in this region, and the payoff is much better agreement with experimental measurements. Keywords: Antennas (K+)

In future periods, we expect to investigate the self impedance and mutual impedance of microstrip antennas on a conducting circular cylinder. The solution will involve an inverse Fourier transform and a summation of cylindrical wave functions. This work will represent a beginning on the more general problem of conformal microstrip arrays.